LBAM Environmental Advisory Task Force Meeting 2/21/08

Biological Control of the Light Brown Apple Moth

[Augmentation using egg parasitoids]

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Biological Control by Augmentation

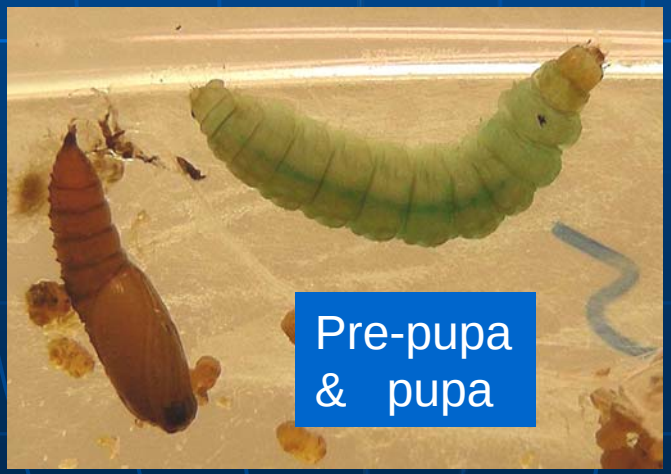
- **Intent** - Utilize large numbers of *Trichogramma* to knock down localized, high-density populations of LBAM.

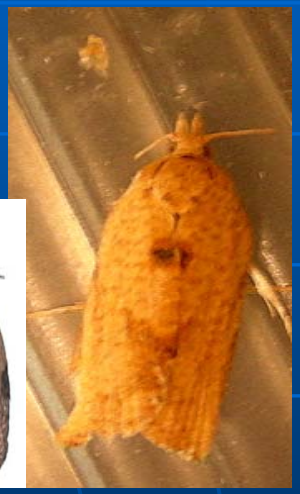
- **Background**
  - *T. pretiosum* and *T. platneri* are native to Calif.
  - *T. platneri* – 60% reduction of codling moth in walnut & pome fruit (Mills et al. 2000)

LBAM Biology: life stages

Approx. 60 Eggs

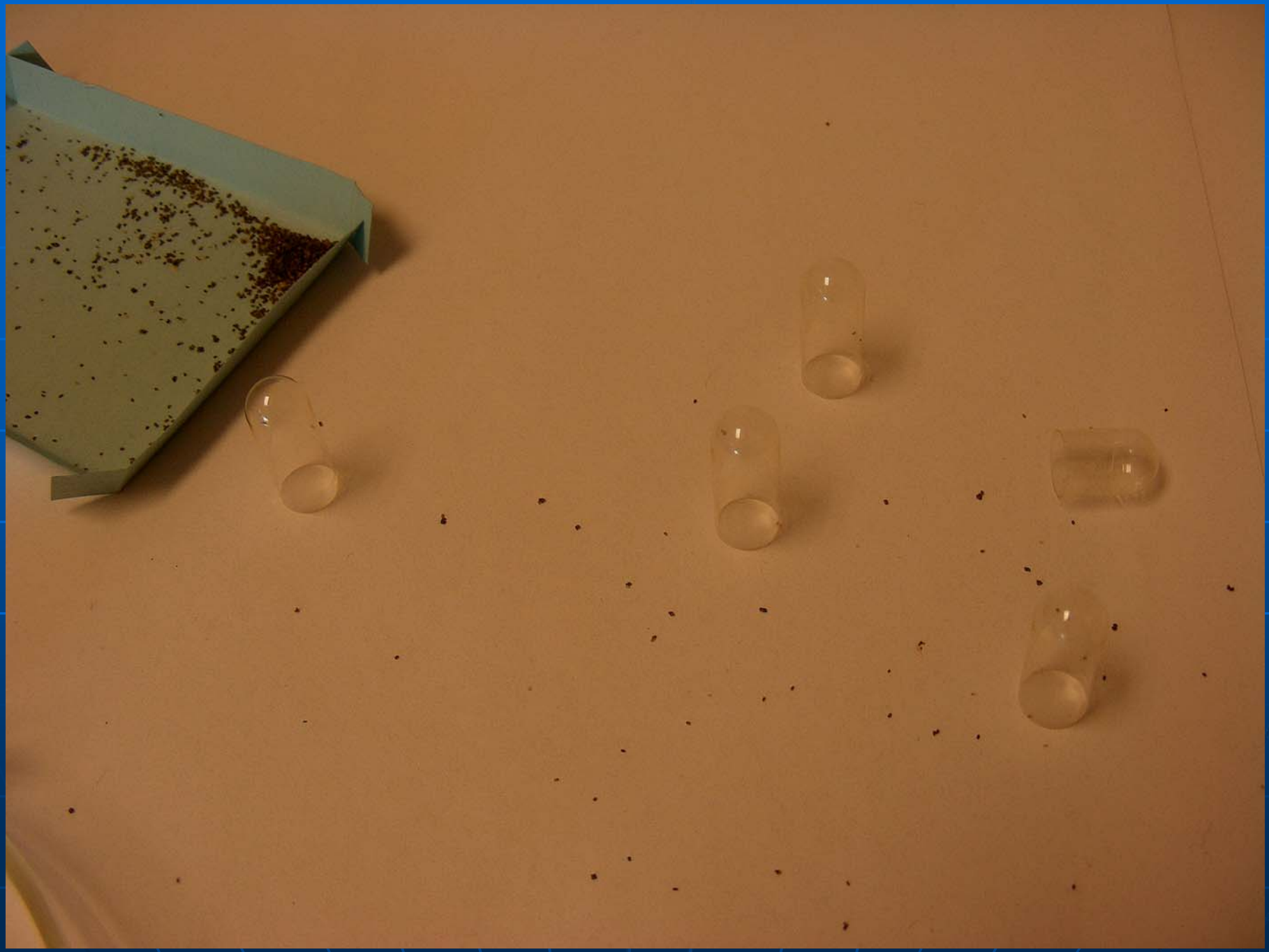
Young &
Late Larvae

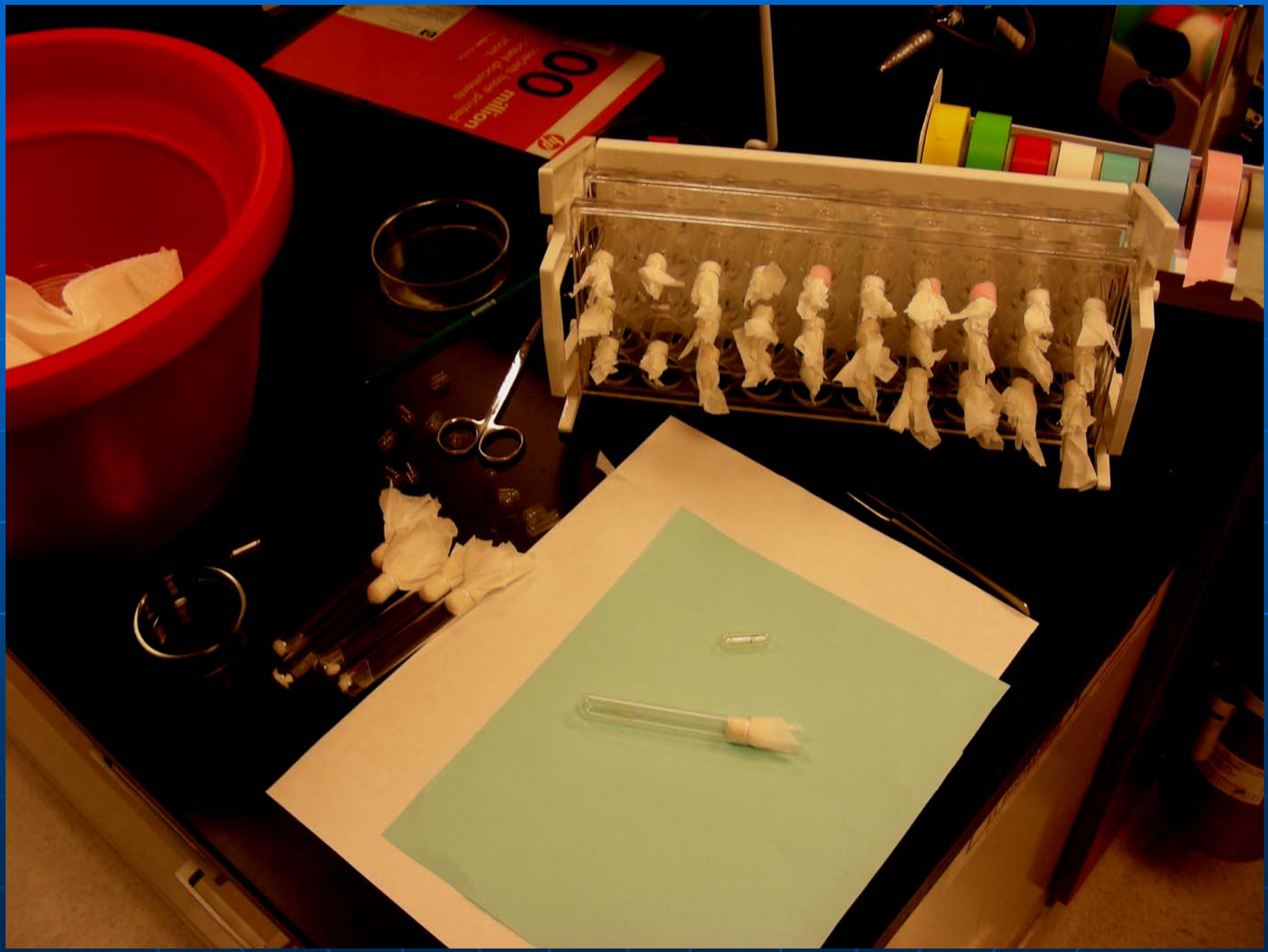


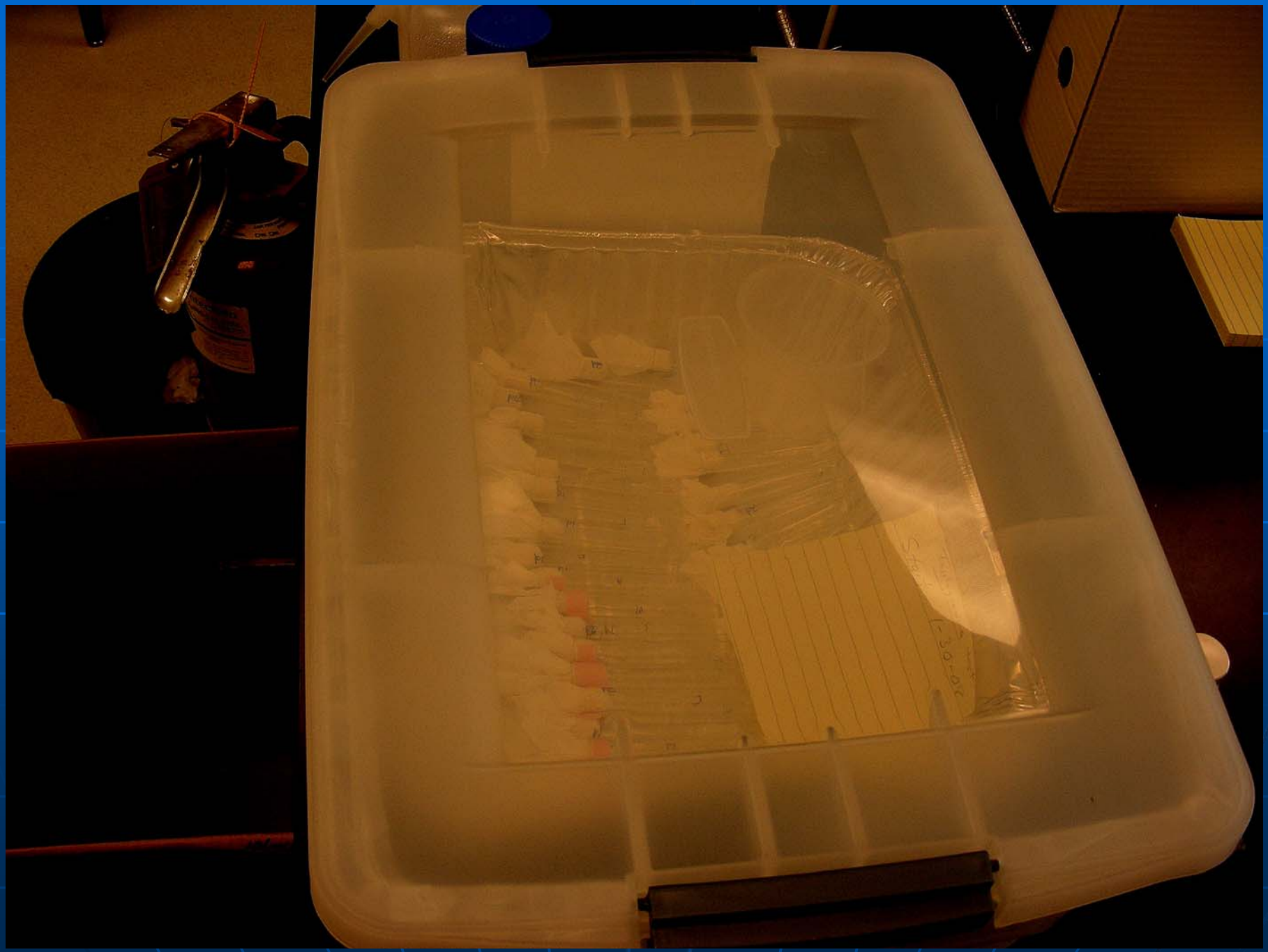


Male

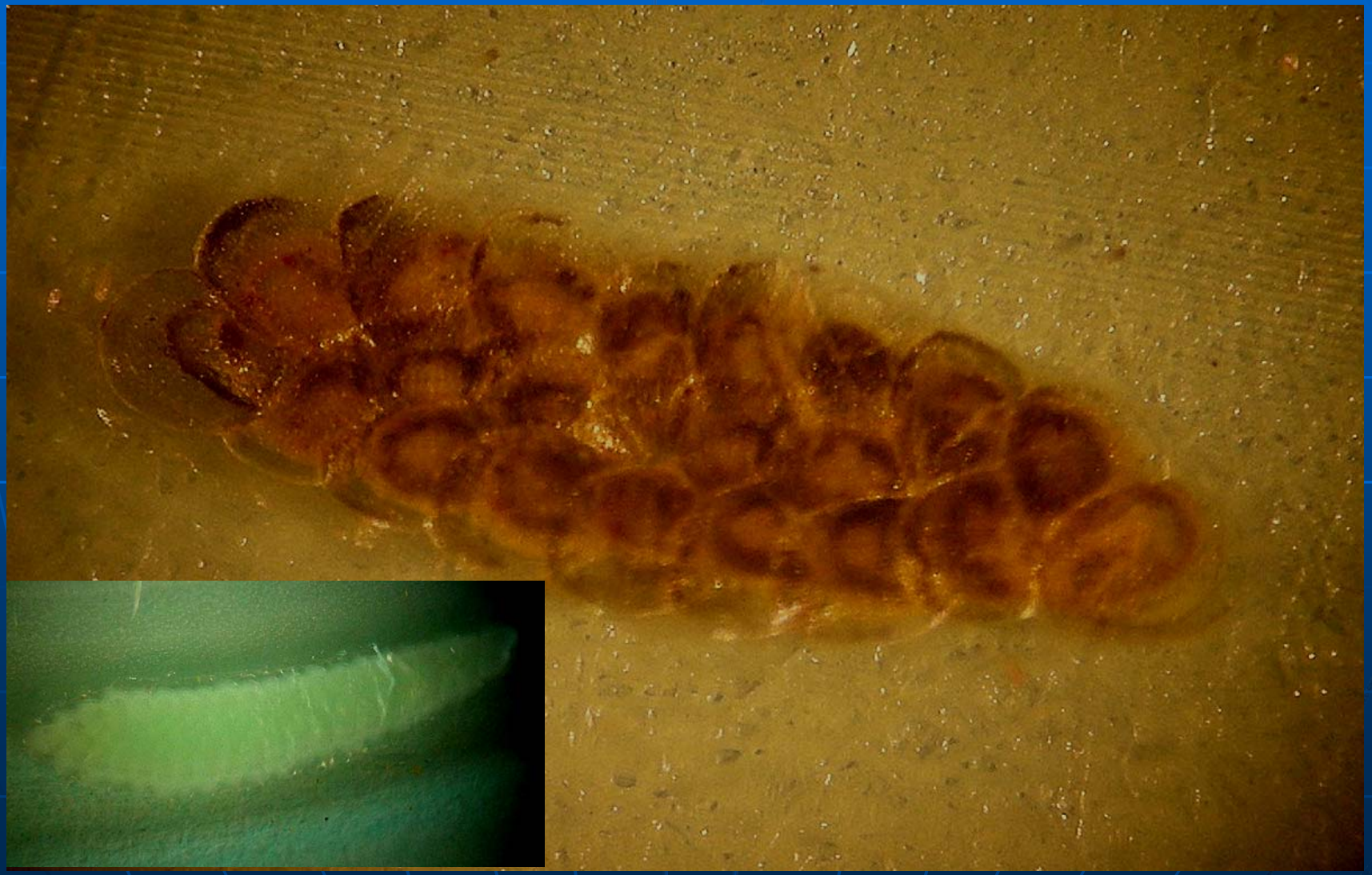
Female







Dark eggs parasitized by Trichogramma




LBAM egg parasitism study
Trichogramma pretiosum
13 Feb '08

Egg Parasitism Study Outline

Start:

Weekly parasite shipment received

Parasite prep:

Held to complete development and emerge the day of study. Varied Temperatures.

Test setup:

Parasites isolate in gel caps

Sex is determined for each

Honey applied to culture tube

LBAM eggs selected

Parasites paired into a single gel cap

Parasites placed in culture tube w/eggs and plugged

Holding Environment:

25 degrees C

60-75% RH

14:13 L:D

Data collection:

24 & 48 hr. parasite survivorship

10 day egg fate: egg hatch, parasite emergence

Test of LBAM Eggs Attached by Two *Trichogramma* Species

Species & test date	Number of egg masses attacked	Mean percent eggs attacked per egg mass	LBAM egg hatch [unparasitized egg masses]
T. Platneri 7 Feb. 2008	5 of 34 egg masses	38% [range: 3-58%]	65%
T. pretiosum 13 Feb. 2008	9 of 20 egg masses	61% [range: 29-96%]	36% [Est. minimum]
T. Platneri 13 Feb. 2008	8 of 20 egg masses		

Have a great day